A brief overview of my latest explorations

Terrains

Underlying patterns exist in every aspect of reality as we know it. Some of the most basic and apparent ones are part of the everyday experience we absorb everyday in the form of countless millions of sensory stimuli.

For this group of works, the image is chosen as the basis for dealing with patterns from all of these realms.

Basic sensory forms include pattern and regularity of the visual world, one that on the most basic cortical levels is a planar map. Converting this sensory experience into a time dependant form preserves the features and charactaristics, but suspends them into a temporal existance.....

Other sensory experience over time, such as sound retains the vital elements of pattern of occurrence and amplitude. This present body of work doesnt extend on a fine level into the frequency domain

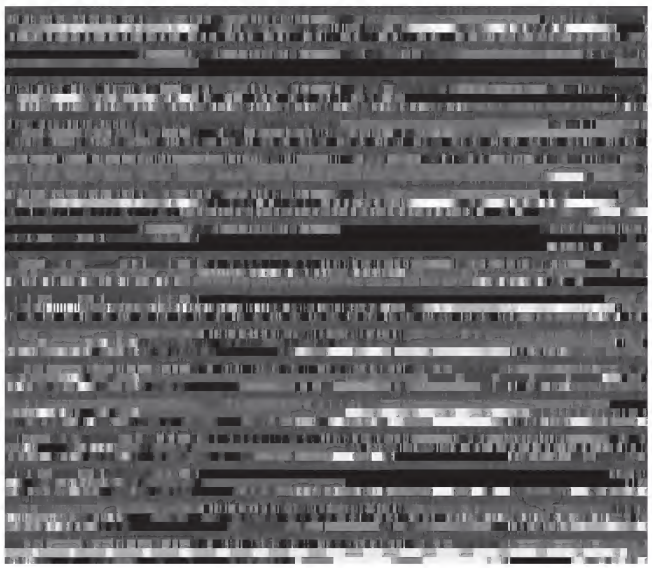
The touch realm directly acquires textural aspects of surfaces and materials, and stores them for use in waves and compositions. A special piece of equipment under development, the 'Terra-Stylus' records vibrations when dragged across a surface

A Brief History

A bit about a few pieces posted on archive.org

The Moonscan recordings were made in the years 1999-2000, when I was exploring the relationship between fractals, natural systems and music. These recordings were made during the time I was developing a software application that reads visual data, and turns it into midi data, and music. The pictures are scanned and then filtered by the manipulation of translational processes in the software, which dictates how the resulting music sounds.
Moonscan 1 - 8 get their original content from NASA lunar landscape images.

http://www.archive.org/details/moonscan1



Above moon mage mapped according to musical rules. Encoded in this image are pitch, velocity, time values etc.

The Present:

Has been working on various methods of acquiring and translating patterns of the natural world. This multi-sensory journey yields countless sources of compositional textural and waveform material for visual and sonic compositions.

Visual data is extracted from found images, drawn visual scores, and adaptations of algorithmically generated visual fields.
Data is also gathered from a variety of sources from other sensory domains, including sound, and touch. The sound conversions are a software process, where the latter requires custom sensors and electronic equipment.
Other processes, such as 'text to sound' (on the micro level) or 'text to structure' (on a more macro level) may borrow patterns from available data sources, including literary works, genomes, weather, and astronomical data.

This process eventually led to generating and manipulating images for the sole purpose of making sound and compositions.

My present-day experiments in this field lead to a rather large variety of custom software applications for whatever specific need arises. The programming environment used depends on the shortcomings for a particular platform (mine, or those of the language itself). Currently image data is ingested into a VB application, and converted into binary or text files. Binary files are used for direct import as raw wave data. The text files are normally structured in specific formats for parallel sonification processes. Normally data derived from images is based on 8 bit fields, which makes the most sense when dealing with the most common 24 bit color format. Normal text output formats I use are 8 bit monochrome, RGB 3 column format, and 8 and 16 column monochrome formats. These formats are convenient when mapping to various parameters in custom applications in Max/MSP and PureData. These applications are normally the end users of the data, but I have Max bridge programs that filter and send the data as MIDI to many other commercial apps and external MIDI instruments.

Text file resulting from scanning a scanned image. The file is eventually mapped to any number of various synthesis parameters

```
3_6Score.bmp.txt - Notepad
File  Edit  Format  View  Help
Sonification Text File
 395
 293
 115753
single
mono
...
EOFHEADER
 72
 72
 72
 55
 60
 67
 71
 71
 60
 60
 57
 57
 62
 72
 59
 59
 72
 62
 81
 67
 71
 71
 71
 60
 57
 57
 62
 72
 59
```

A 16 column text file, meant for sampling of regularly spaced image data attributes for the purpose of parameter mapping.

```
row16score1.jpg.txt - Notepad
File  Edit  Format  View  Help
Sonification Text File
 576
 594
 342144
single
comb16
...
EOFHEADER
 252  251  255  252  255  255  255  250  251  145  103  107  35  18  16  29
 255  255  255  255  253  249  249  255  254  255  246  233  22  47  27  9
 250  253  249  252  255  255  249  255  255  251  254  235  220  115  16  31
 255  255  253  251  255  255  255  251  255  253  246  225  230  210  27  17
 248  253  255  255  252  247  255  254  247  255  244  239  224  229  19  17
 255  253  245  255  255  247  255  250  255  255  251  249  226  13  29  15
 250  255  252  248  255  252  255  253  255  242  255  249  23  19  2  57
 140  242  255  252  255  255  255  253  251  255  251  64  40  17  17  223
 49  255  255  250  255  254  251  255  255  246  86  13  13  31  242  234
 16  246  255  254  255  253  255  249  251  116  15  25  34  245  255  255
 24  37  243  255  250  251  249  138  10  28  23  11  255  253  251  255
 14  16  24  255  255  203  40  20  31  4  34  254  255  255  255  254
 45  12  26  15  32  18  18  18  11  32  97  255  255  250  251  255
 19  23  19  16  14  20  17  22  0  104  255  242  255  255  254  19
 23  22  19  30  10  21  22  1  255  253  255  255  255  108  23  18
 20  24  16  16  17  29  86  255  253  255  245  255  242  40  14  20
 71  17  22  19  10  66  255  248  254  255  255  255  56  21  21  30
 12  14  27  23  208  252  252  255  255  253  248  114  31  24  36  68
 18  23  23  134  255  253  253  255  255  255  206  23  22  52  17  45
 21  12  77  255  246  255  251  255  248  252  86  11  16  139  134  212
 17  27  132  255  255  247  251  247  255  94  20  80  251  255  254  255
 13  20  255  250  253  253  255  117  66  24  72  133  255  243  255  246
 27  22  253  255  249  255  247  79  20  46  255  255  240  255  255  255
 19  79  255  253  253  255  14  19  53  255  241  255  254  252  255  255
 26  103  255  251  209  13  84  132  255  255  248  255  255  253  255  252
 12  255  255  207  23  145  252  254  249  254  255  249  255  253  243  255
 20  248  252  24  59  240  255  253  255  251  255  248  255  255  255  253
 40  67  27  18  254  255  251  252  252  255  254  255  243  254  255  250
 32  36  9  48  251  255  255  253  255  255  251  217  111  25  14  70
 11  25  13  255  246  255  254  255  255  61  24  16  20  34  13  42
 30  12  27  255  255  255  244  209  25  22  11  220  41  21  23  114
 52  23  209  250  255  253  216  22  22  15  85  13  26  22  27  42
 18  28  242  255  251  70  40  26  25  26  26  24  21  18  19  20
 16  39  135  108  44  199  40  28  19  21  22  21  18  17  18  19
 18  27  141  54  51  10  20  24  16  18  19  19  17  17  18  20
 43  26  45  15  25  18  32  9  18  19  20  20  19  19  20  21
 78  19  12  30  17  21  18  23  20  20  21  20  20  19  19  20
 21  25  17  21  15  42  67  20  20  19  19  19  18  18  17  17
 17  12  27  29  12  31  22  14  19  18  18  18  18  18  17  17
 59  25  13  17  20  21  13  24  19  18  18  18  19  20  19  19
 21  14  18  30  17  17  21  17  16  18  20  22  14  22  21  21
 19  22  26  115  235  253  254  255  212  130  67  87  24  17  10  20
 24  16  187  252  255  255  255  252  255  251  255  242  135  19  21  14
 18  23  255  255  249  255  250  255  250  250  255  255  223  22  28  22
 11  51  255  248  255  252  252  255  255  255  241  255  255  43  20  11
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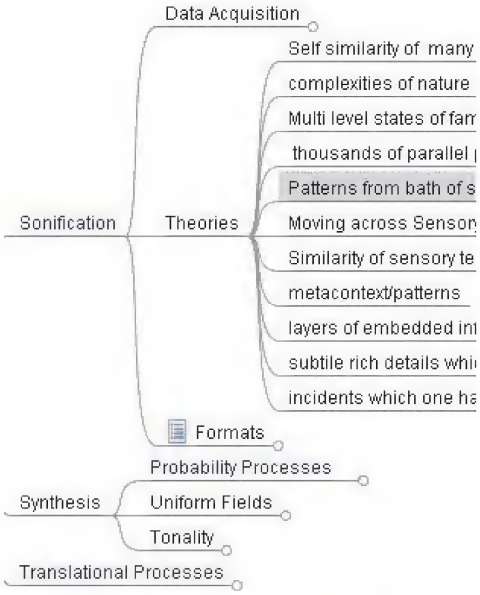


Moon image mapped according to multiple sets of musical rules, reassembled for the purpose of waveform generation.

On the Macro Level

Visual score for the purpose of phrasing and movements

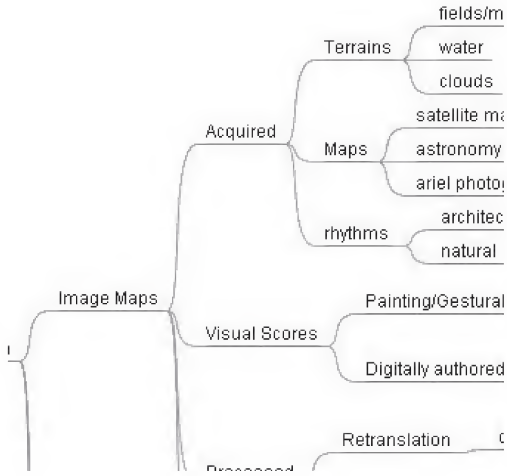
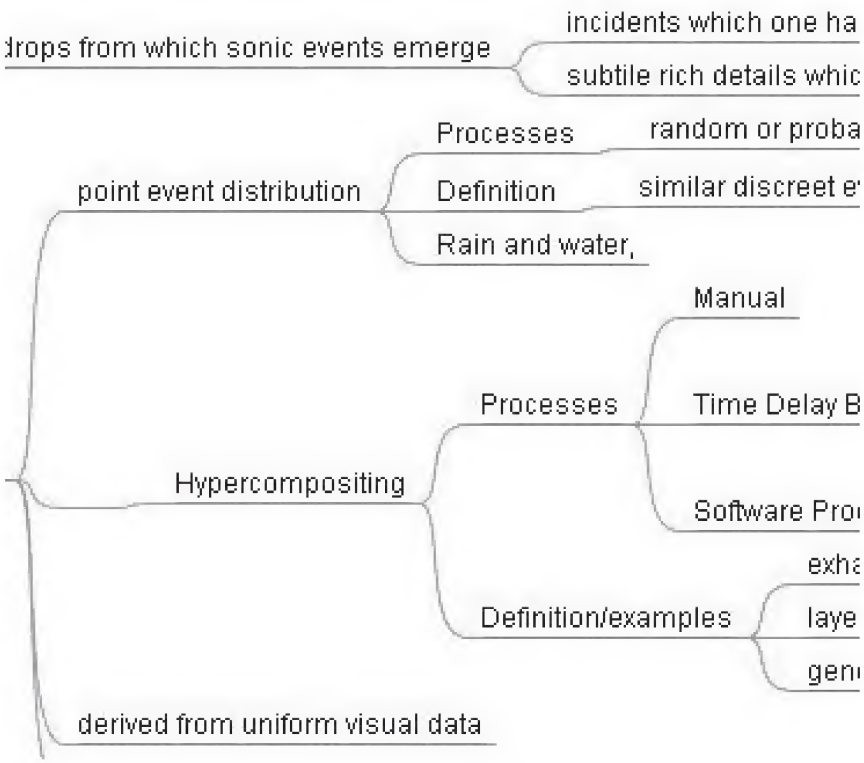
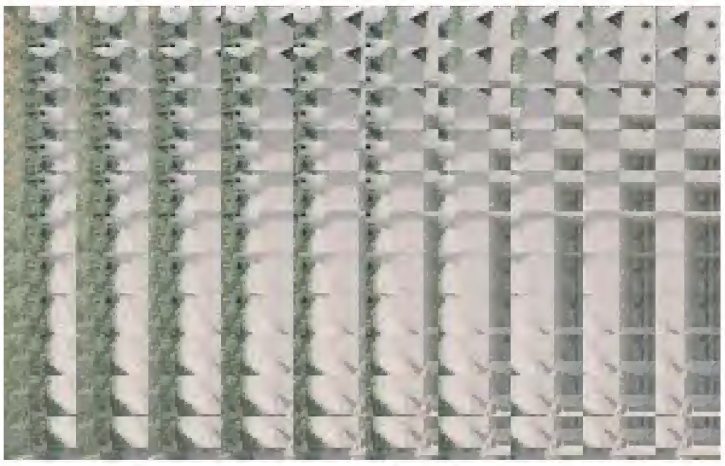
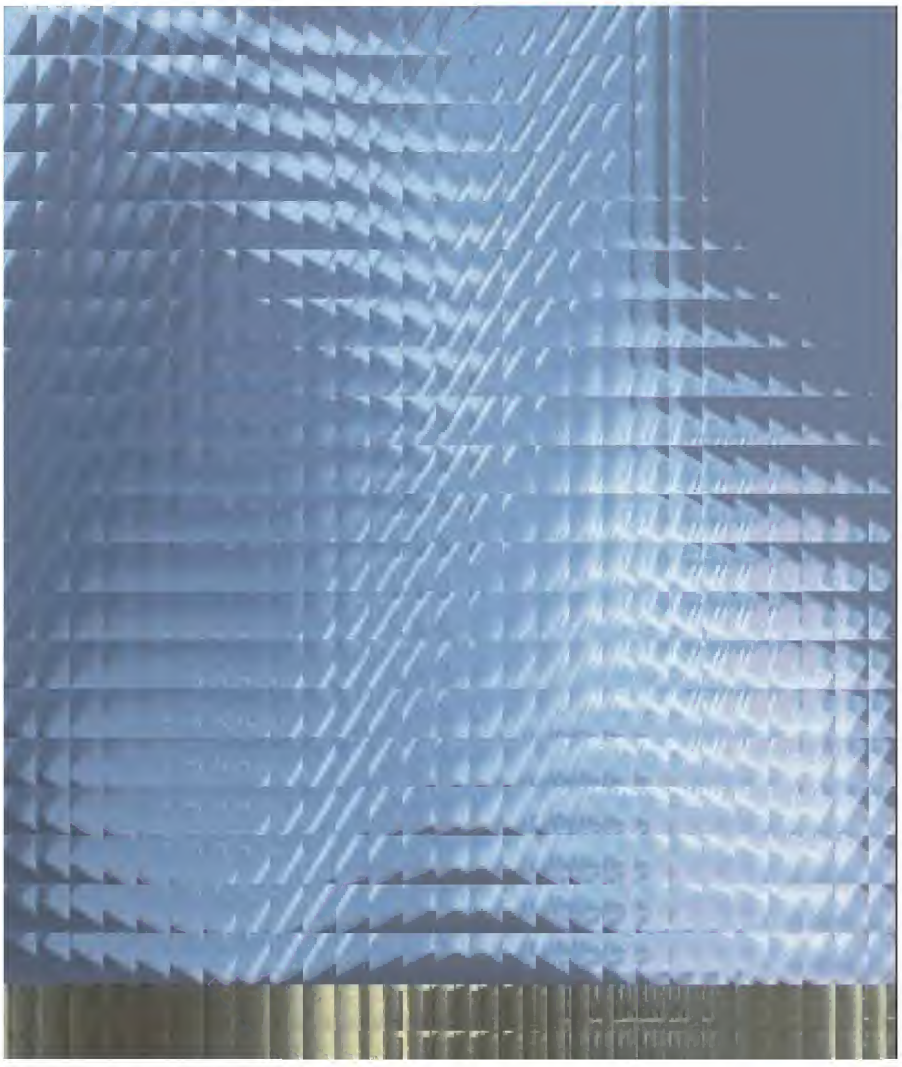


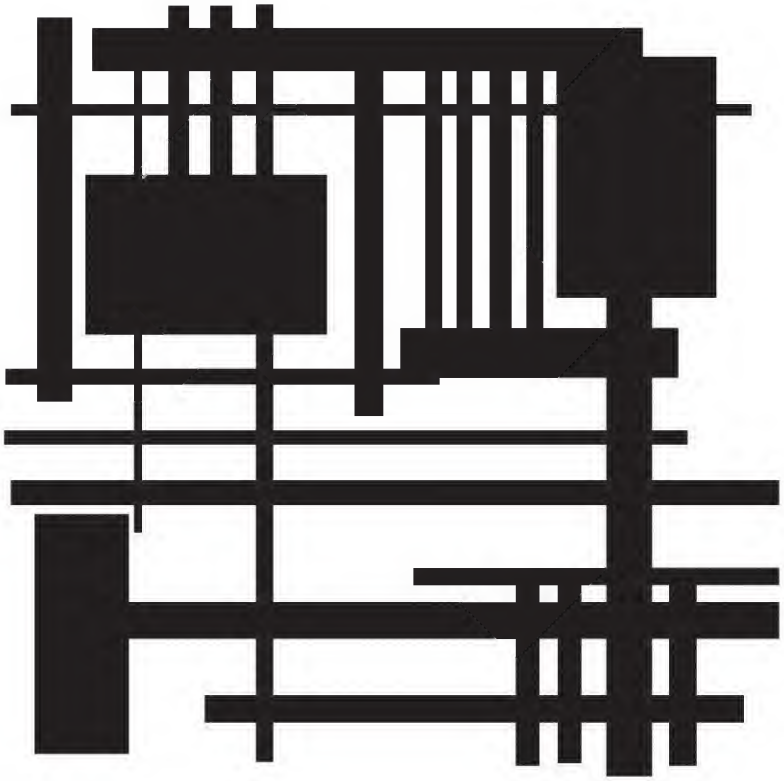
Image Maps
Acquired
Terrains
fields/m
water
clouds
Maps
satellite ma
astronomy
ariel photo
rhythms
architec
natural
Visual Scores
Painting/Gestural
Digitally authored
Retranslation


drops from which sonic events emerge
incidents which one ha
subtile rich details whic
point event distribution
Processes
random or proba
Definition
similar discreet e
Rain and water,
Hypercompositing
Processes
Manual
Time Delay B
Software Pro
Definition/examples
exha
laye
gen
derived from uniform visual data

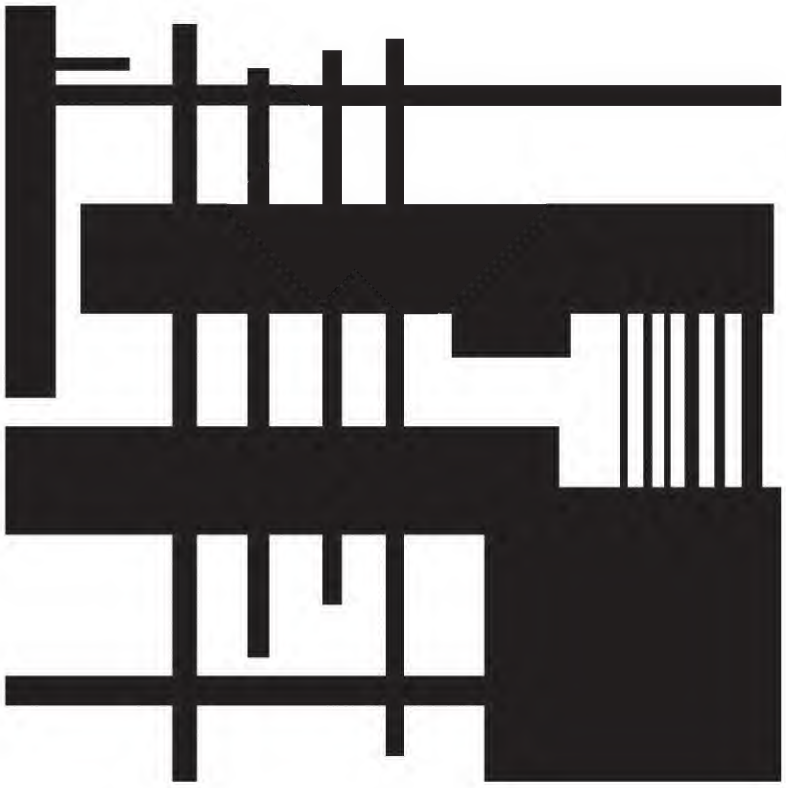
Phrasing and development



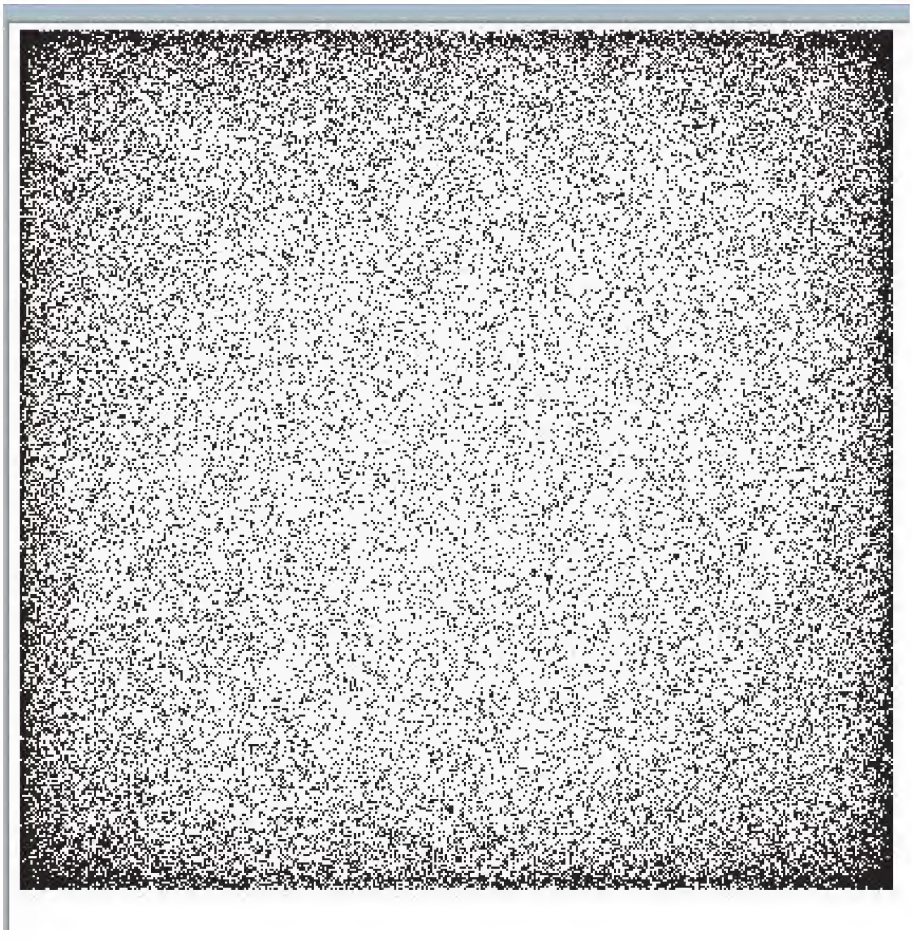




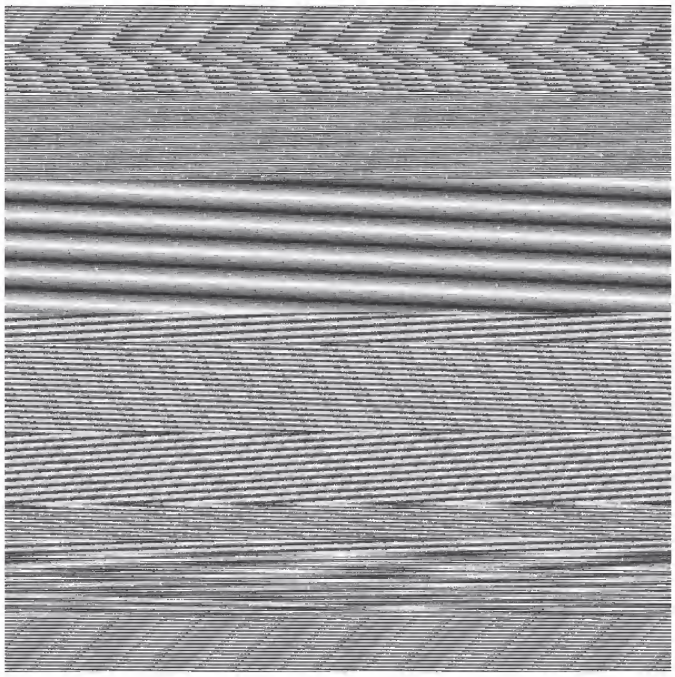
Two scores designed for simultaneous piece processes: track mixing and rhythmic pattern generation. Images from this series have also been used for waveform generation.

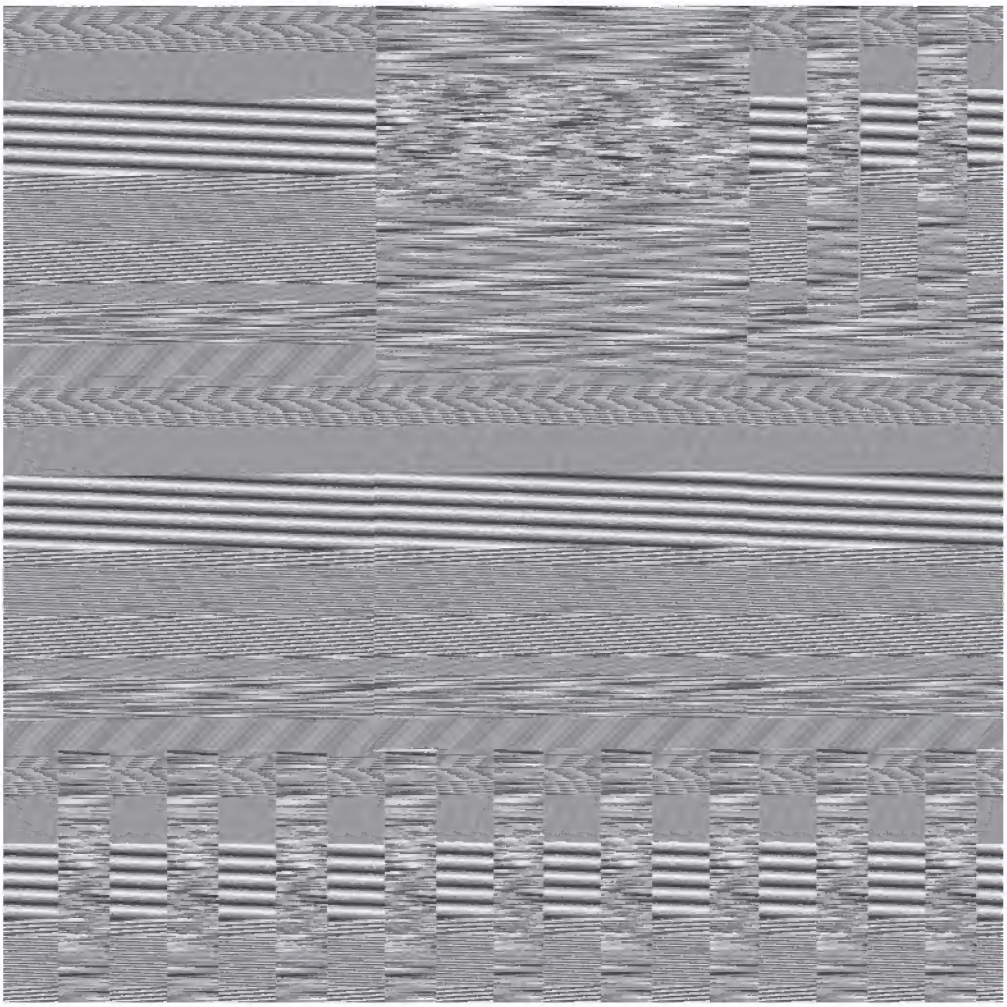


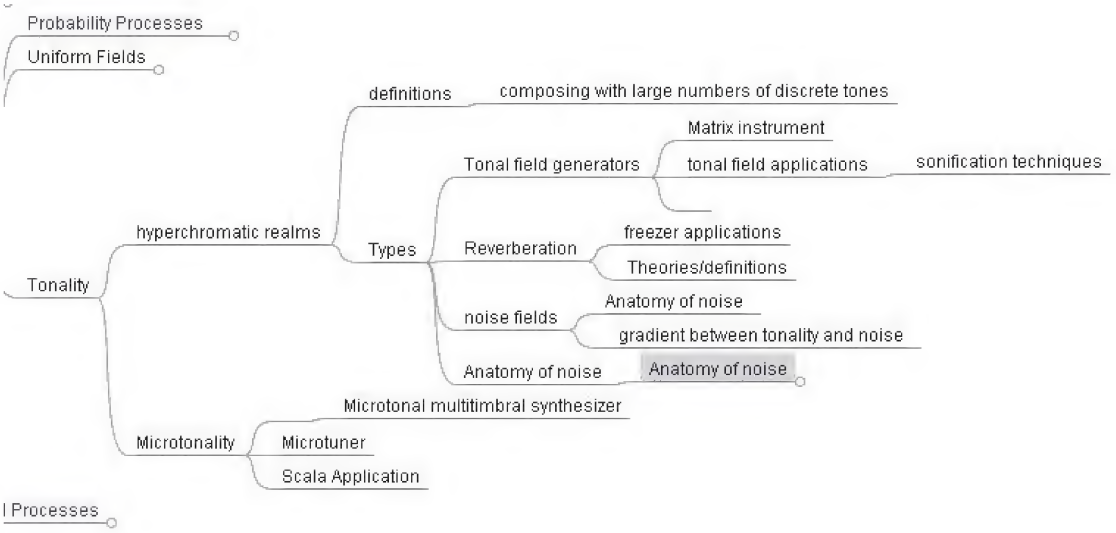
Point-event distribution

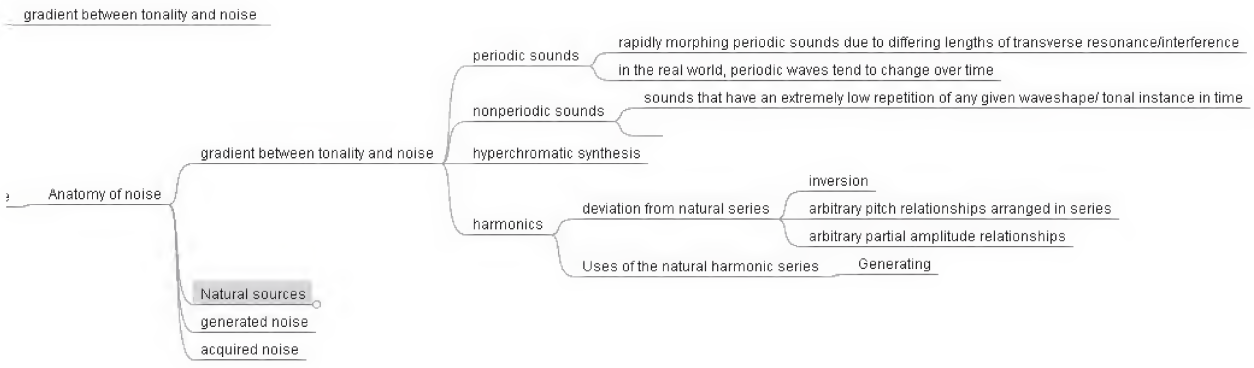


Algorithmic Generation of waves/patterns for the purpose of re-composition re-sampling in the visual realm





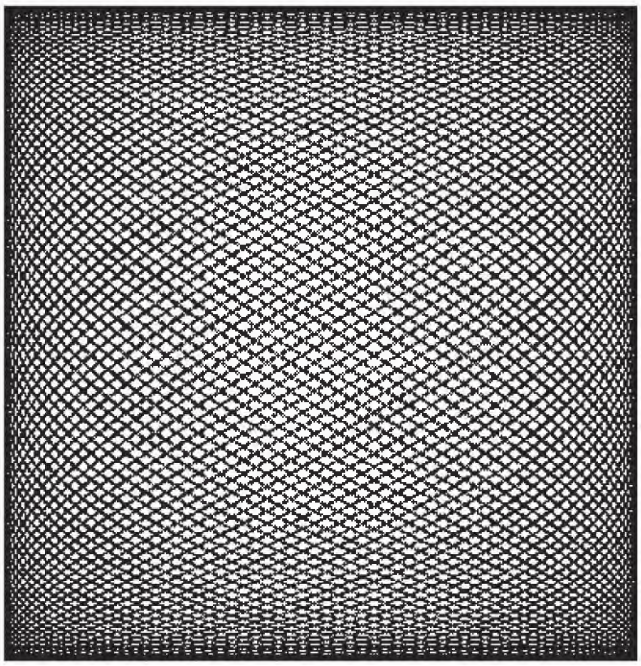

Probability Processes
Uniform Fields
Tonality
hyperchromatic realms
definitions
composing with large numbers of discrete tones
Types
Tonal field generators
Matrix instrument
tonal field applications
sonification techniques
Reverberation
freezer applications
Theories/definitions
noise fields
Anatomy of noise
gradient between tonality and noise
Anatomy of noise
Anatomy of noise
Microtonality
Microtonal multitimbral synthesizer
Microtuner
Scala Application
l Processes

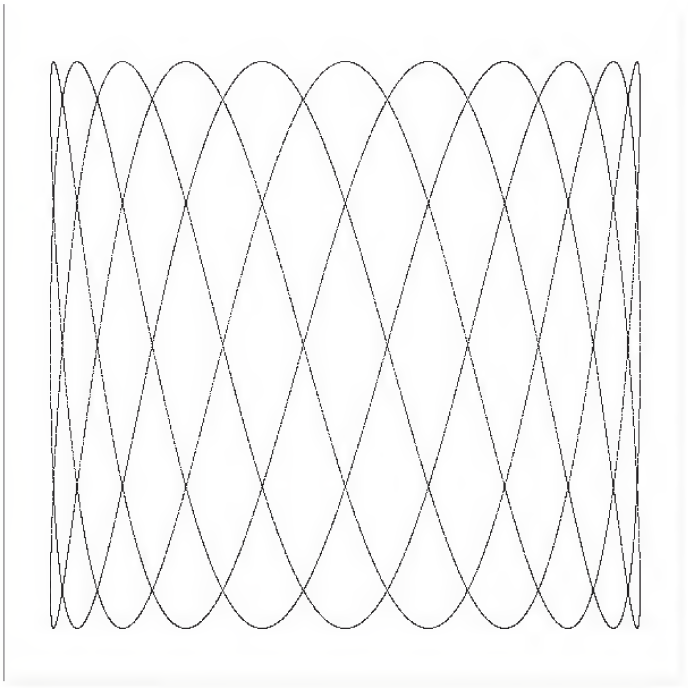

gradient between tonality and noise
Anatomy of noise
gradient between tonality and noise
periodic sounds
rapidly morphing periodic sounds due to differing lengths of transverse resonance/interference
in the real world, periodic waves tend to change over time
nonperiodic sounds
sounds that have an extremely low repetition of any given waveshape/ tonal instance in time
hyperchromatic synthesis
harmonics
deviation from natural series
inversion
arbitrary pitch relationships arranged in series
arbitrary partial amplitude relationships
Uses of the natural harmonic series
Generating
Natural sources
generated noise
acquired noise

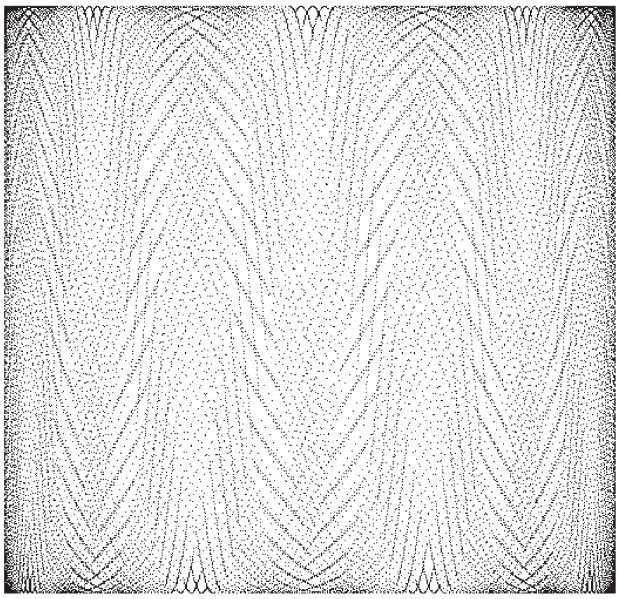
Components

Score for a periodic wave

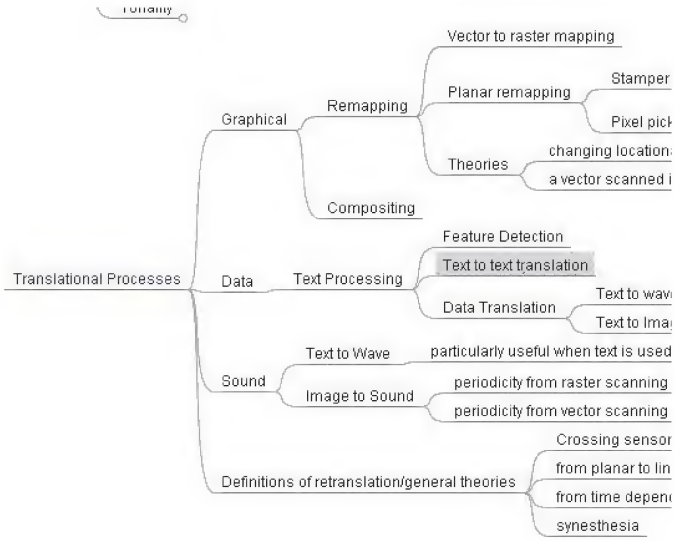
Remapping images for sonification purposes

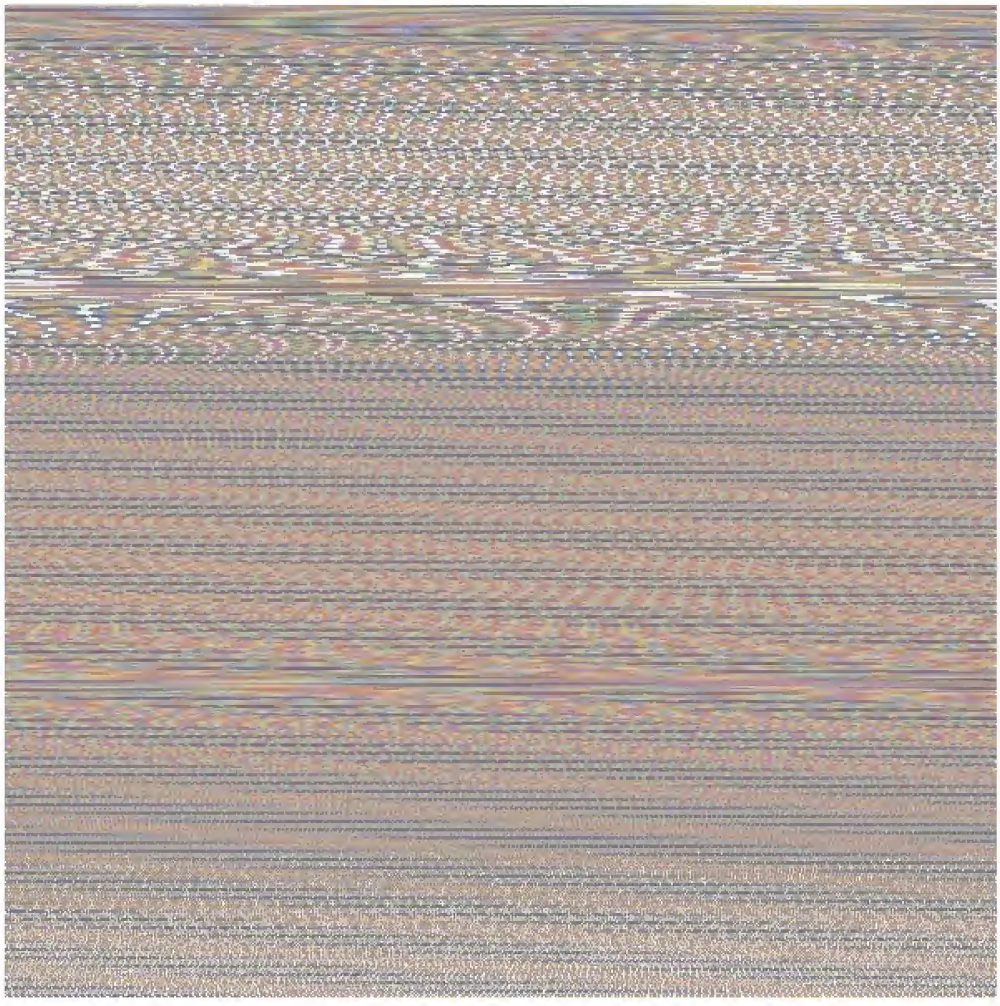




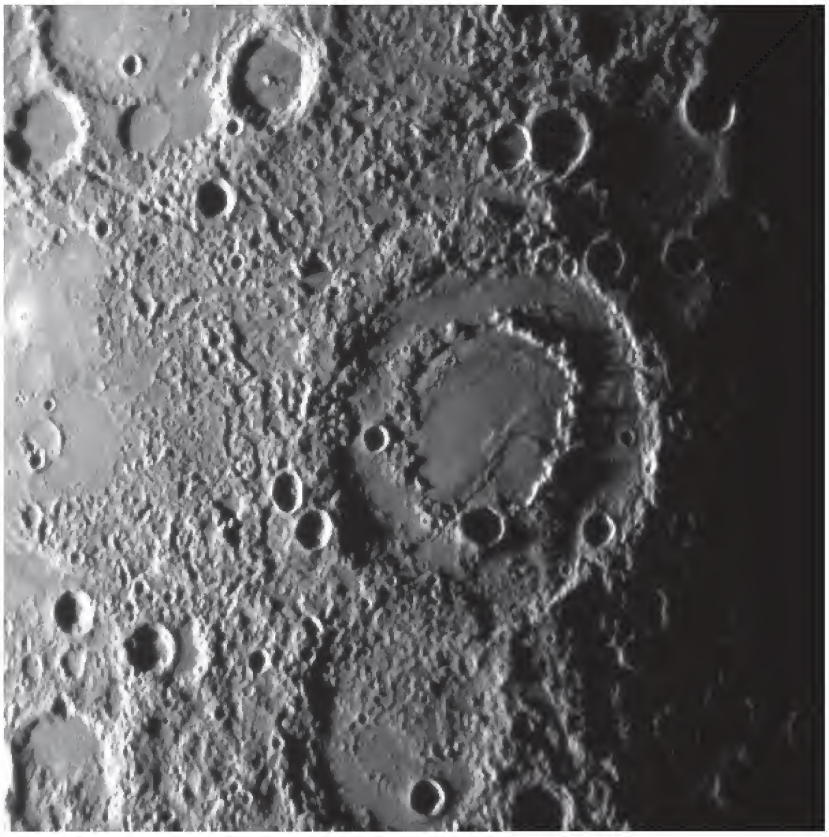


Images remapped in a modulated elliptical scan format to minimize the periodic nature of a simple raster scan method

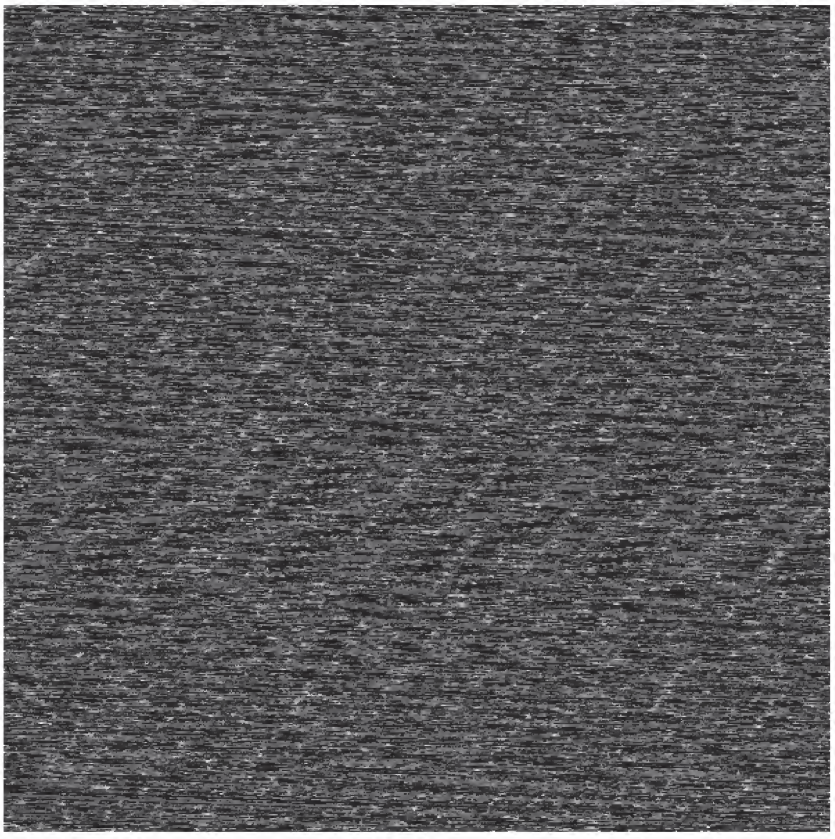

Translational Processes
Graphical
Remapping
Vector to raster mapping
Planar remapping
Stamper
Pixel pick
Theories
changing location
a vector scanned i
Compositing
Data
Text Processing
Feature Detection
Text to text translation
Data Translation
Text to wav
Text to Ima
Sound
Text to Wave
particularly useful when text is used
Image to Sound
periodicity from raster scanning
periodicity from vector scanning
Definitions of retranslation/general theories
Crossing sensor
from planar to lin
from time depen
synesthesia

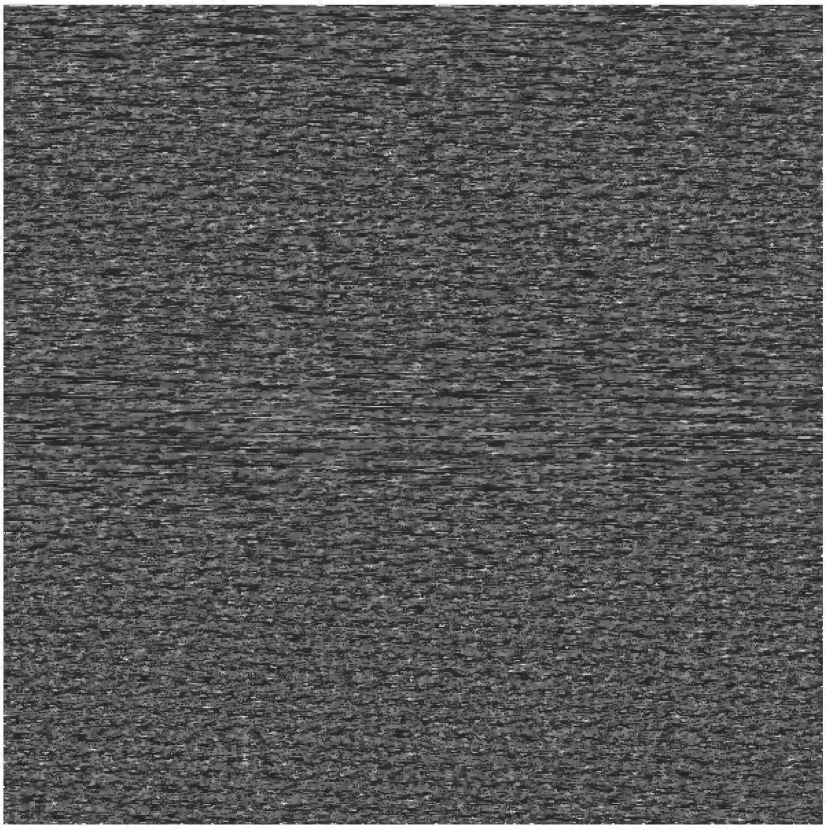


Successive Remapping

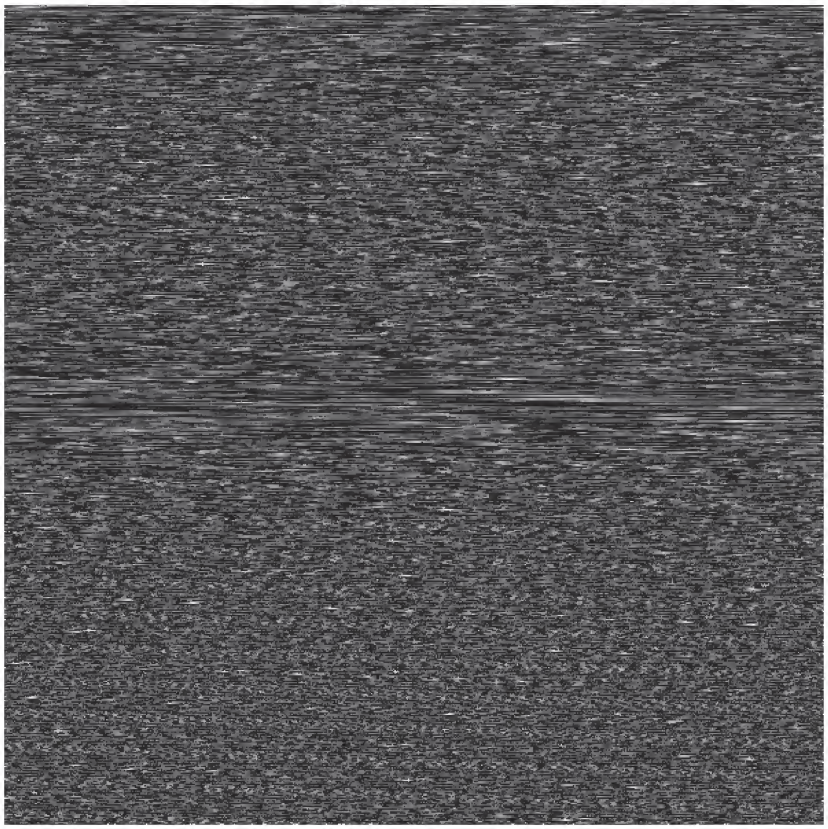


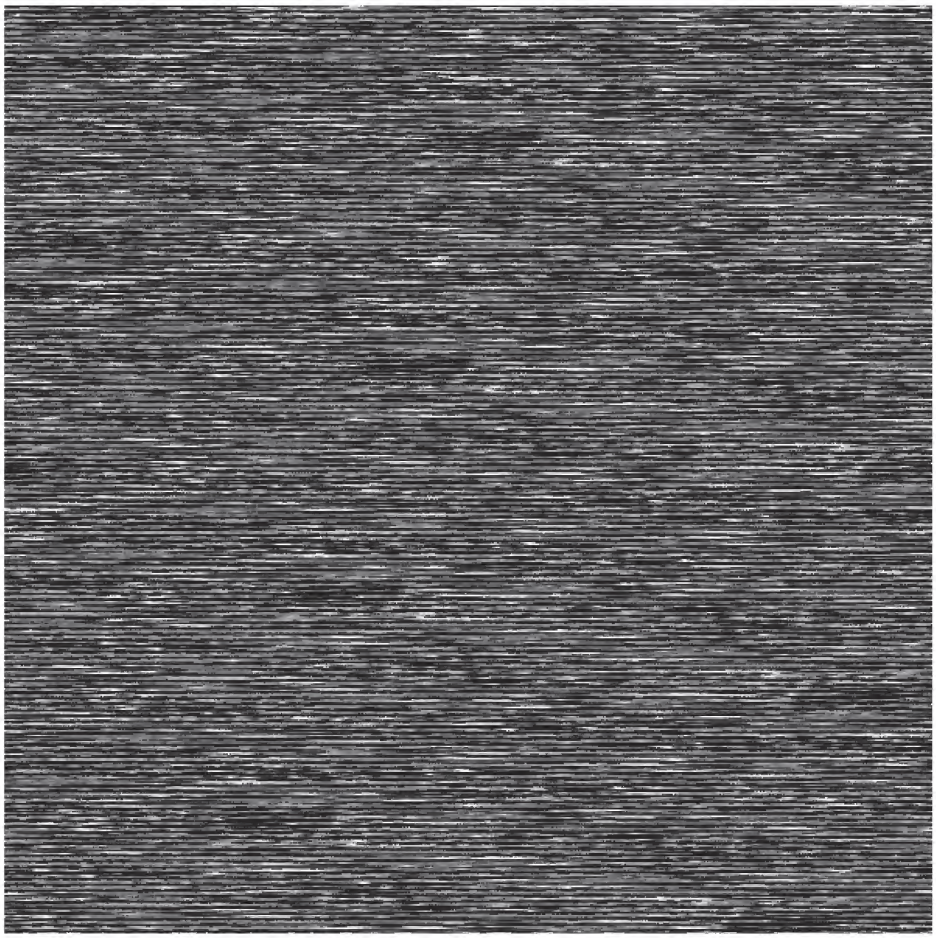
Any given image is a finite system, with its own histogramic, frequency and angularity charactaristics. Remapping changes the trajectory the latter mentioned traits, while preserving the former. The same basic raster scanning process is given the ability to move in any direction, because of the remapping. The results are then able to be manipulated in the visual realm.



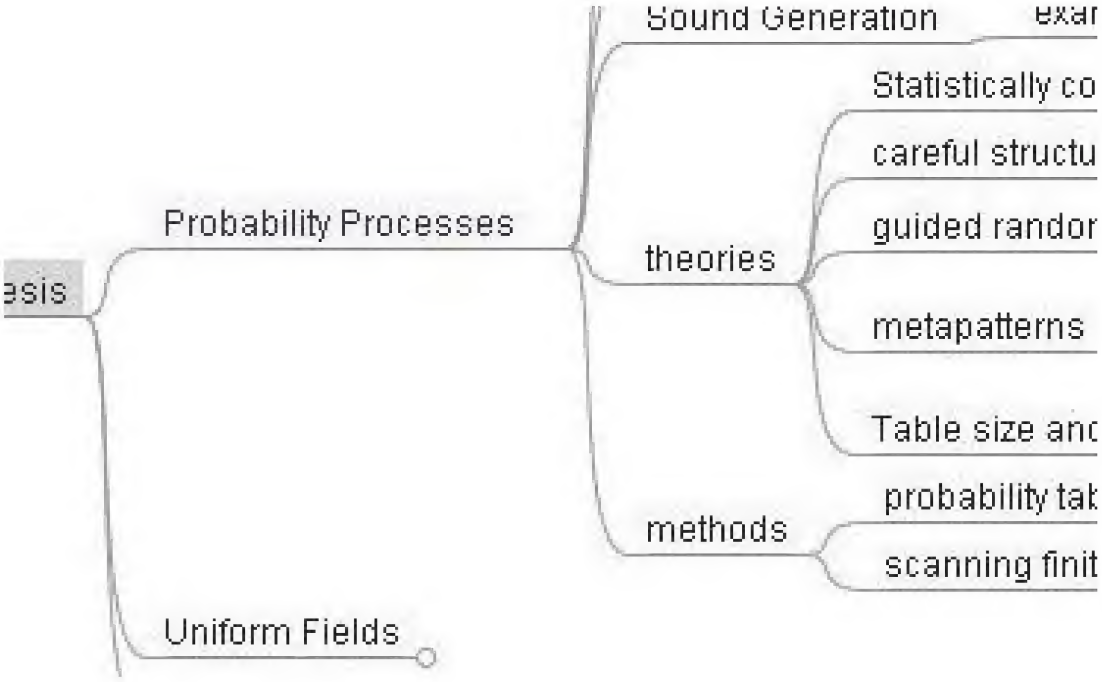


The result of a translational process, though it can look much different, cant escape some basic charactaristics of the original

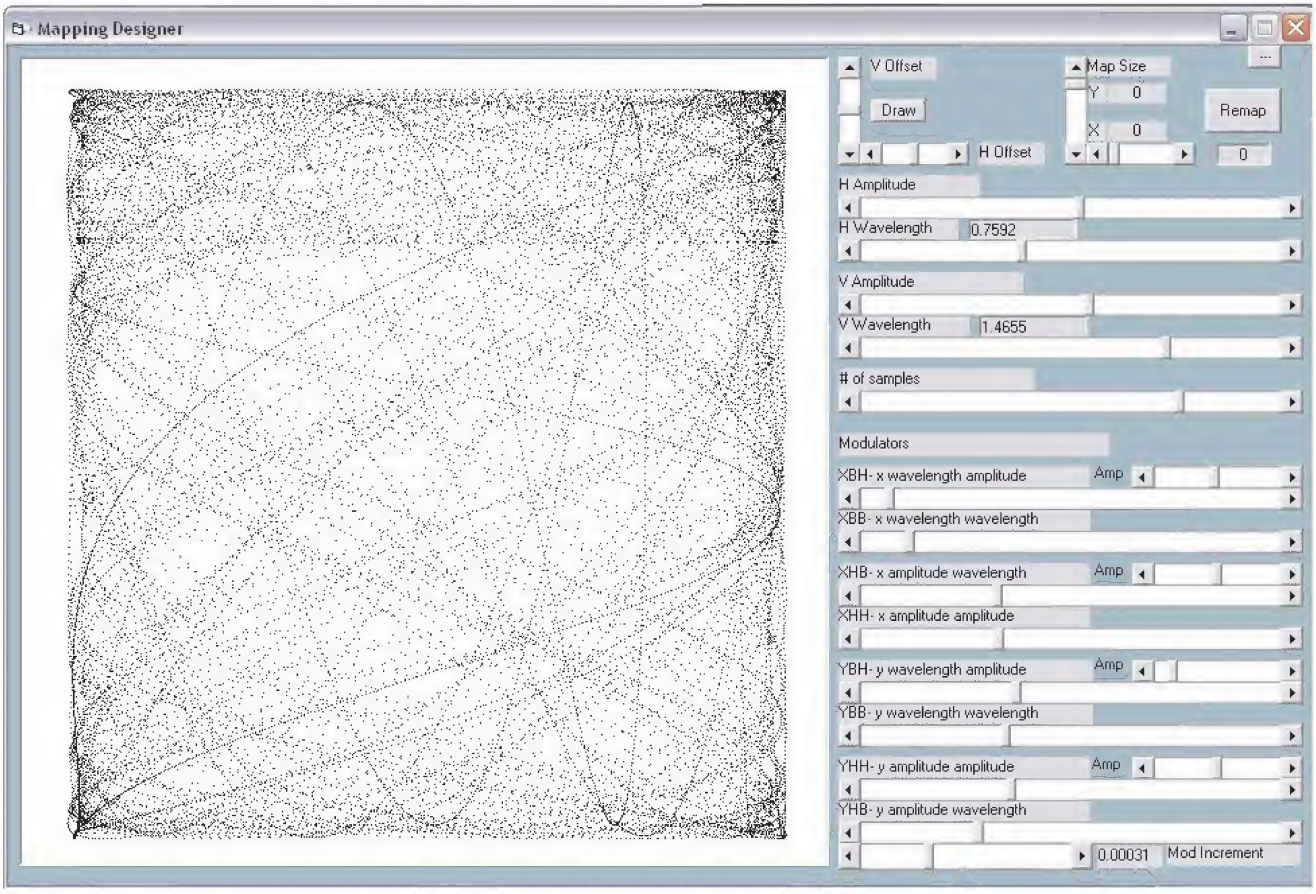


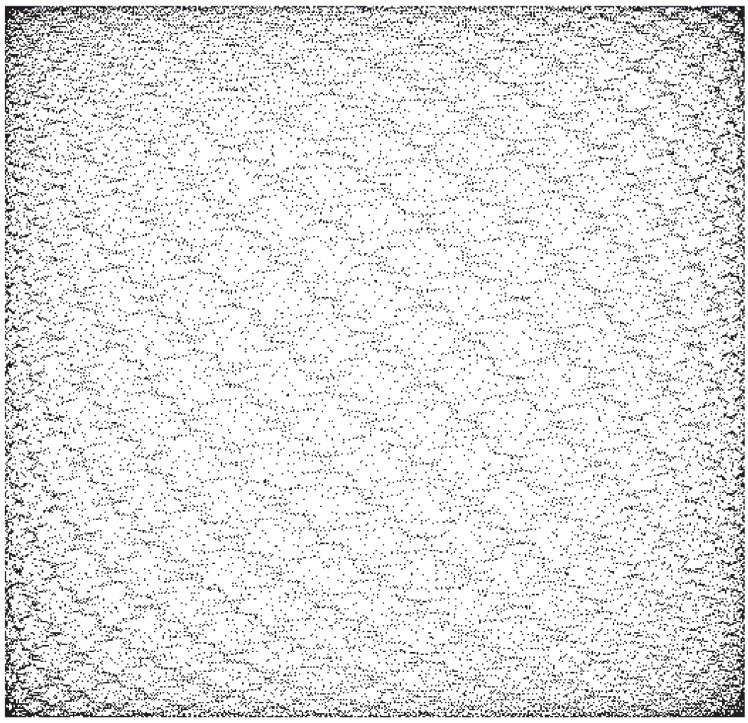


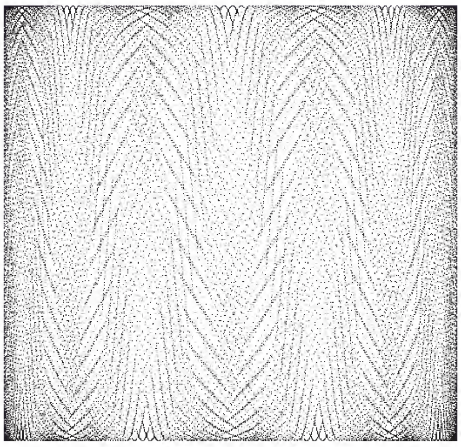
Fourth iteration of moon image remapped with the same modulated elliptical trace pattern

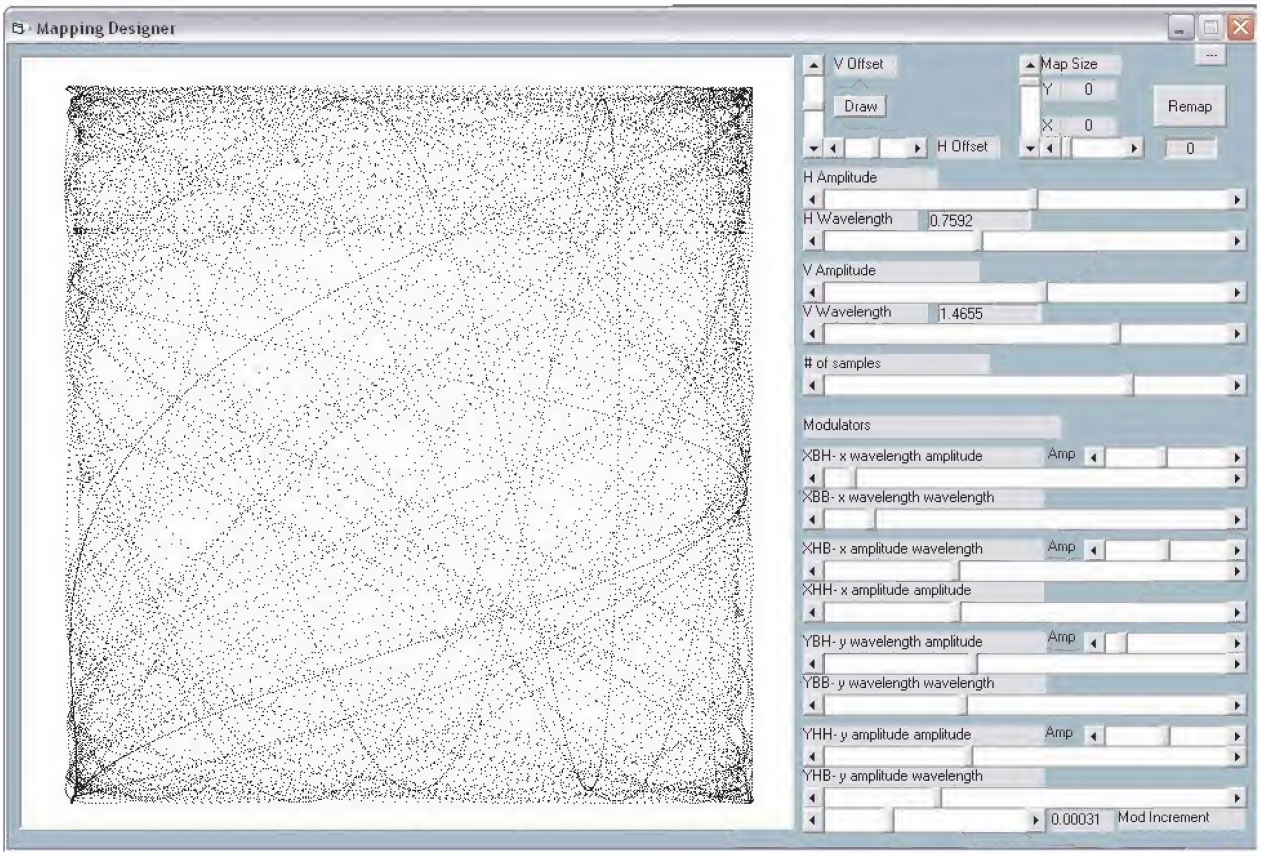


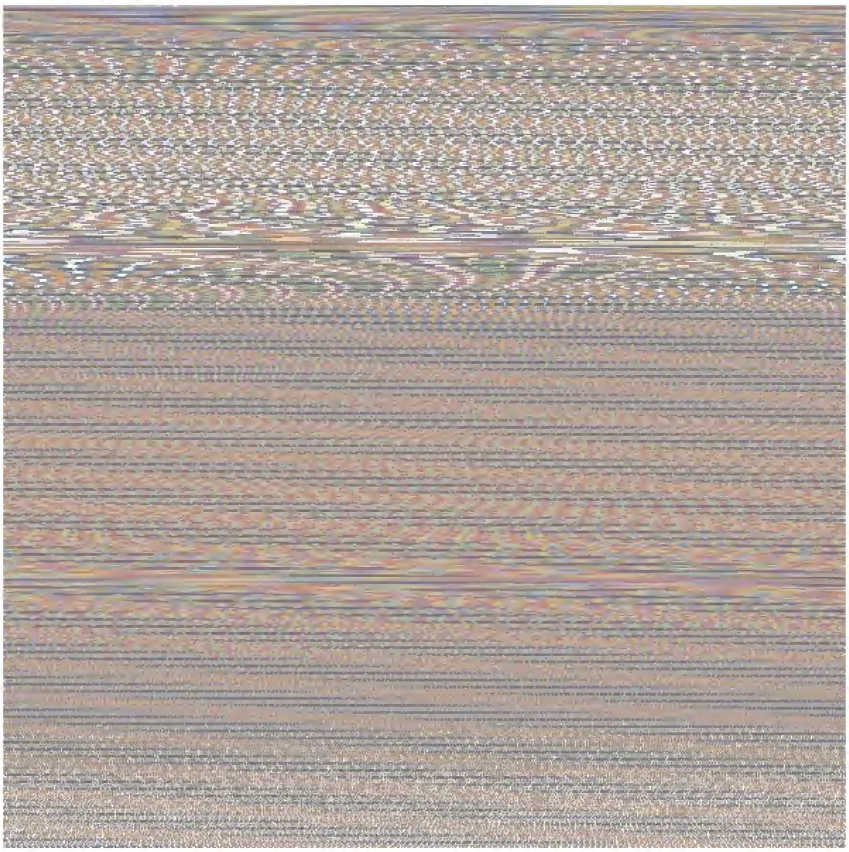
Software created for designing elliptical scan trajectories



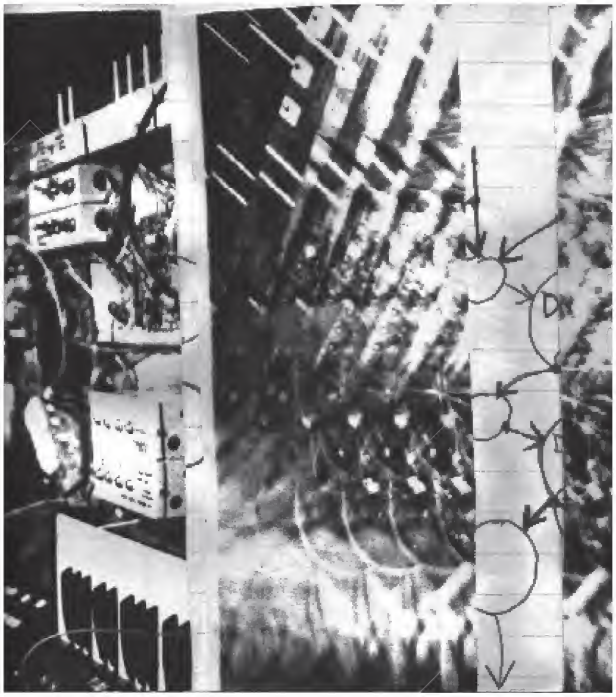





Mapping Designer
V Offset
Draw
H Offset
Map Size
Y 0
X 0
Remap
0
H Amplitude
H Wavelength
0.7592
V Amplitude
V Wavelength
1.4655
# of samples
Modulators
XBH- x wavelength amplitude
Amp
XBB- x wavelength wavelength
XHB- x amplitude wavelength
Amp
XHH- x amplitude amplitude
YBH- y wavelength amplitude
Amp
YBB- y wavelength wavelength
YHH- y amplitude amplitude
Amp
YHB- y amplitude wavelength
0.00031
Mod Increment



Hardware



Examples of specialized machinery for aquiring/using terrain data

Remote terrain gathering device, single pixel camera/recorder intended for use on a moving vehicle or platform also the optical capture of film or human movements. Output is selectable as either MIDI or RS232 format, for use in sonification processes.

Prototype of a turntable style scanner for reading helical format visual scores and other various image meterial for production and live performance. Output is MIDI Continuous controller data, which can be mapped to any musical attribute, or via a standard rs232 connection, mapped directly to sonic waveforms and other data processing programs .